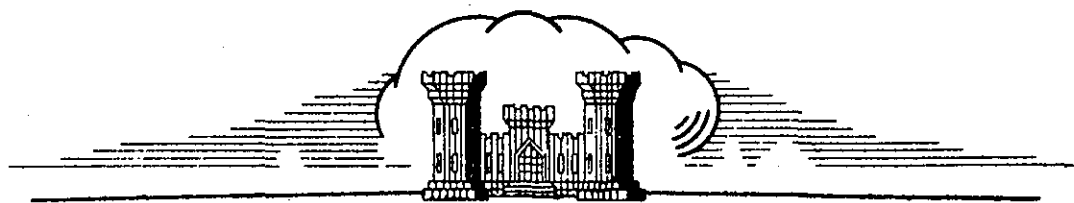


CUTTYHUNK HARBOR

MASSACHUSETTS

PRELIMINARY EXAMINATION



**NEW ENGLAND DIVISION
CORPS OF ENGINEERS-WAR DEPARTMENT
BOSTON, MASS.**

14 JULY 1947

WAR DEPARTMENT
OFFICE OF THE DIVISION ENGINEER
NEW ENGLAND DIVISION
CORPS OF ENGINEERS
BOSTON 16, MASS.

NEDNR

14 July 1947

SUBJECT: Preliminary Examination of Cuttyhunk Harbor, Massachusetts.

TO: The Chief of Engineers, U. S. Army, Washington 25, D. C.

SYLLABUS

The Division Engineer is of the opinion that the improvement of Cuttyhunk Harbor is worthy of further consideration. He recommends a survey to determine the cost and justification of a suitable modification of the existing project and the extent of local co-operation to be required.

AUTHORITY

1. This report on preliminary examination of Cuttyhunk Harbor, Massachusetts is submitted in compliance with an item in Section 7 of the River and Harbor Act approved 24 July 1946, which reads as follows:

"Cuttyhunk Harbor, Massachusetts."

DESCRIPTION

2. Cuttyhunk Island is the most westerly of the Elizabeth Islands which extend about 14 miles westerly from Woods Hole, Massachusetts and separate Buzzards Bay on the north from Vineyard Sound on the south. The island, together with the other Elizabeth Islands, forms the town of Gosnold. Cuttyhunk Harbor, near the eastern end of the island, opens into Buzzards Bay and consists of an outer and inner section. The outer harbor has a usable area of about 50 acres varying from 10 to 16 feet in depth. It is afforded some protection from the south although it is entirely exposed to the north. The outer harbor connects with Vineyard Sound through Canapitsit Channel which lies between the islands of Cuttyhunk and Nashawena, although Quicks Hole Channel which lies east of Nashawena Island is preferred by navigators. The inner harbor, or Cuttyhunk Pond, covers an area of about 105 acres with depths ranging from 1 to 10 feet below mean low water. A channel with an authorized depth of 10 feet leads between jetties from the outer harbor to a 10-foot anchorage

basin 16 acres in extent in the inner harbor. The inner harbor is landlocked and the 10-foot anchorage provides good shelter except during storms of hurricane force. A Coast Guard station is located on Canapitsit Point. Cuttyhunk Harbor lies about 14 miles south of New Bedford Harbor and the same distance west of Woods Hole Harbor. The mean tidal range is 3.4 feet and the spring range 4.2 feet. There are no bridges crossing any portion of the waterway. The harbor is shown on the charts of the U. S. Coast and Geodetic Survey numbered 249, 297 and 1210 and on Plate 1, File No. B.B. 152 accompanying this report.

TRIBUTARY AREA

3. Cuttyhunk Island is the principal population center of the town of Gosnold, the other Elizabeth Islands being practically uninhabited. Of 71 voters registered in 1946 in the town of Gosnold all but 4 reside on Cuttyhunk Island. The town had, in 1940, a permanent population of 136, and a property valuation of \$1,322,169. The population is greatly increased during the summer by summer residents, vacationists, and tourists. The principal occupation of the area includes fishing, lobstering, and the entertainment of summer visitors, including a large number of boat owners. Cuttyhunk lies close to the route traversed by boats using the Cape Cod Canal and Vineyard Sound.

PRIOR REPORTS

4. The only report of record was a favorable preliminary examination and survey report submitted to Congress August 12, 1936 and printed in House Document numbered 81, Seventy-fifth Congress, 1st session. This report forms the basis for the existing project.

EXISTING PROJECT

5. The existing project is the only Federal project that has been authorized for Cuttyhunk Harbor. It was authorized by the River and Harbor Act of August 26, 1937 and provides for an entrance channel generally 75 feet wide and 10 feet deep at mean low water, from the outer harbor to the westerly terminal in Cuttyhunk Pond; an anchorage in the inner harbor, 10 feet deep at mean low water, 900 feet long and 800 feet wide; and for maintenance of the jetties which had been constructed by the Commonwealth of Massachusetts. The new work in the Federal project was completed in 1939 at a cost of \$38,811.23, of which \$11,643.37 was

contributed by local interests.

6. A narrow, low-beach or neck, composed mostly of water-worn stones, ranging in size from small gravel with little sand to stones 8 or 10 inches in diameter, formerly connected the main portion of Cuttyhunk Island with Canapitsit Point. This beach gave protection from southerly storms to the outer harbor and to the jetties and entrance channel to the inner harbor. The hurricanes of 1938 and 1944 destroyed much of the connecting beach and there is now a gap about 700 feet wide, with water depths up to about three feet, between the main island and Canapitsit Point. The hurricanes and recurring southerly storms have also badly damaged the jetties. The south jetty has been almost completely destroyed, and the effectiveness of the north jetty, has been greatly reduced. Much of the beach material washed away has been deposited in the entrance channel, both within and outside of the jetties. The controlling depth in the channel is now barely 6 feet at low water.

7. As a result of its inaccessibility due to the washing out of the beach, the Coast Guard recently has closed its station on Canapitsit, and it is understood that the station is to be abandoned.

8. The costs for maintenance have been \$17,660.50, all of which was expended for repairing the jetties and the partial restoration of the barrier beach in 1939. The latest (1937) approved estimate for annual cost of maintenance is \$3,650.00 which was based almost entirely on maintenance dredging. At the present time additional maintenance work is needed, estimated at \$24,000 for dredging and \$93,600 for repairing the jetties, or a total of \$117,600. From this it is evident that the estimated annual maintenance cost is not adequate. The annual cost of maintenance of the project as authorized is now estimated to be about \$7500. No maintenance work has been accomplished since 1939. No modifications of the existing project have been recommended to Congress.

EXISTING LOCAL COOPERATION

9. The existing project was authorized subject to the conditions that local interests contribute 30 percent of the first cost and furnish free of cost to the United States suitable spoil disposal areas for new work and subsequent maintenance. These conditions have been fully com-

plied with and town officials have given assurances that future spoil disposal areas will be provided when needed.

OTHER IMPROVEMENTS

10. The Commonwealth of Massachusetts provided the first improvements to Cuttyhunk Pond by constructing a stone and concrete jetty on each side of the entrance, and dredging and maintaining an entrance channel and turning basin. State and town expenditures for this work total about \$105,000. In addition the town has constructed and maintained two public wharves at a cost of about \$12,000.

TERMINAL AND TRANSFER FACILITIES

11. Two town wharves are situated in the pond on the south side of the channel. These wharves have about 400 linear feet of docking space. They are open for public use without restriction. Gas and water are available throughout the year. The freight boat line which operates between New Bedford and Cuttyhunk uses the Town wharf just inside the pond. Two or three privately-owned piers and the wharf of the United States Coast Guard complete the shore facilities. None of the wharves have transfer facilities, none being needed. There are no boatyards or repair facilities at Cuttyhunk. Local fishermen accomplish their own repair work or have such work done at New Bedford. Since pleasure craft use Cuttyhunk primarily as a harbor of refuge no demand exists for repair facilities. There is ample room available for construction of additional shore facilities should they be required.

IMPROVEMENT DESIRED

12. A public hearing held at Cuttyhunk on 20 November 1946 was attended by about 20 people including State and town officials, representatives of the United States Coast Guard and interested citizens. The Selectmen of the town of Gosnold requested that the existing anchorage area be enlarged and that a small anchorage be dredged west of the innermost town wharf. In addition the Selectmen requested that some means be found to restore and to maintain the beach connecting the main island with Canapitsit Point in order to prevent the entrance channel from shoaling and to give access to the United States Coast Guard installation on Canapitsit Point. A spokesman for the Coast Guard concurred with these requests especially as to the need for the latter.

13. In justification of the proposed improvements it was pointed out that the existing anchorage is filled to capacity during the summer months and many vessels seeking refuge must either anchor in the channel or in the exposed outer harbor. It was claimed also that the existing anchorage, although suitable during the summer months, provides insufficient protection during winter storms and that a small anchorage west of the upper wharf under the lee of high land to the south would provide the protection needed by local fishing boats and transient pleasure and fishing vessels seeking refuge during the winter months.

14. Restoration and protection of the narrow strip of land formerly between the main island and the Coast Guard station on Canapitsit was claimed to be justified because of benefits to the Coast Guard, because of resultant reduction in the cost of maintaining the Federal channel and because of protection it affords to the outer harbor. It was stated that this strip of beach was breached in several places in 1944 making it difficult for the Coast Guard to perform its rescue operations as the men were unable to cross the beach to reach the boathouse. Subsequent to the hearing this breach has been increased in length, causing increased shoaling of the entrance channel.

15. Subsequent to the hearing, the town selectmen have stated that the extension to the existing anchorage area in the inner harbor is the least important of the improvements desired; that restoration of the beach so that the channel may be protected and maintained is the most important; and that the additional anchorage area west of Town Pier is of second importance. They have stated that the town will willingly contribute 50 percent of the cost of the additional anchorage area and will furnish necessary spoil areas.

COMMERCE

16. Commerce carried on the mail and freight boat "Alert" for the past 7 years for which records are available is shown in the following table. The items carried include petroleum products, coal, building materials, and general merchandise.

Commerce - Receipts and Shipments

<u>Year</u>	<u>Tons</u>	<u>Passengers</u>
1939	363	No record
1940	570	5,000
1941	366	3,836
1942	518	4,982
1943	526	6,134
1944	175	5,874
1945	179	2,678
1946	484	1,346

17. In addition to the above traffic a small fleet of fishing vessels operates out of Cuttyhunk Harbor. Practically all fish is transported in the fishing vessels to New Bedford Harbor. No record of the tonnage of fish caught by these vessels is available.

VESSEL TRAFFIC

18. The mail and freight boat made 171 round trips between Cuttyhunk and New Bedford in 1946. It is reported that 600 pleasure craft 35 to 40 feet in length sought refuge in Cuttyhunk Pond during 1945. Coast Guard vessels make frequent trips to and from their base in the Pond, and the anchorage area is used to a large extent by commercial fishing vessels both as a base for local fishing vessels and by transient fishing vessels as a harbor of refuge. There is no information available to indicate the total number of vessel trips in the harbor.

19. Local interests believe that the proposed improvement of the Pond will permit many more vessels to find refuge in the harbor, particularly if the entrance channel can be maintained at the authorized depth.

DIFFICULTIES ATTENDING NAVIGATION

20. Due to the destruction of the beach and damage to the south jetty and the resulting reductions in the width and depth of the entrance channel, navigation to and from the inner harbor is limited to vessels of not more than six-foot draft. Navigation of the entrance channels during southerly storms by vessels of any draft is extremely hazardous.

WATER POWER AND OTHER SPECIAL SUBJECTS

21. There are no questions of water power pertinent to this report. The proposed improvements will have no adverse effect on wildlife. A study of the currents and the beach in the vicinity is necessary in order to determine what effect the proposed improvements will have

on the shoreline in the vicinity, and as to how the currents might effect the improvements.

DISCUSSION

22. Cuttyhunk Harbor is favorably situated in relation to traffic passing through the Cape Cod Canal. It is used extensively as a harbor of refuge by pleasure craft during the summer months and by fishing vessels throughout the year. It is the only harbor of refuge on the south side of Buzzards Bay. In addition to these general benefits some benefits will accrue to the locality through increased use of the harbor. These benefits include increased sales of gasoline and oil, and increased business for the retail stores and resort hotels, and increased protection for local craft.

23. Local interests seek to improve existing facilities in the harbor to provide more anchorage area, and to protect the entrance channel. The suggested plan for providing additional anchorage areas appears to be worthy of consideration, but the protection of the entrance channel by rebuilding and stabilizing the beach and rebuilding the jetties may involve costs for construction in excess of the benefits to be derived from the undertaking. The justification for the restoration of the beach as a means of access to the Coast Guard Station may be discounted as the station has been closed.

24. The reported condition of the entrance channel and jetties is such as to require looking into the advisability of replacing the channel with one at a location further north, where shoaling due to gravel being washed in from the barrier beach and damage to the jetties by wave action in times of severe storms would be minimized.

CONCLUSIONS

25. Existing and reasonably prospective small-boat navigation through Vineyard Sound and Buzzards Bay warrants further consideration of the improvements desired by local interests in Cuttyhunk Harbor, and the exposed location of the entrance channel requires consideration of either its relocation or the construction of extensive protective works. A suitable improvement will probably result in general benefits in excess of annual charges. Local cash contribution should be required for the construction of the westerly anchorage, if constructed, and for such

improvements as are made to the entrance channel. An official of the Commonwealth of Massachusetts has indicated a willingness to seek legislation for an appropriation of funds for the improvement of this harbor.

RECOMMENDATIONS

26. It is recommended that a survey be made to determine the extent and cost of such improvement as may be justified, and the proper basis for local cooperation.

R. G. MOSES
Brigadier General, U.S.A.
Division Engineer

1 Inclosure:

#1 - Plate 1 (File No. B.B. 152)

